



# **Compliance Options of the New EMC Directive And the R&TTE Directive**

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## Background



- **Existing framework :**
  - EMC Directive - 89/336/EEC of 03/05/1989
  - Applicable since 01/01/1992
  - Mandatory application since 01/01/96
  - Amended by 91/263/EEC, 92/31/EEC and 93/68/EEC
  - EMC Directive is based on the concepts of the new approach
- **Guide issued in 1997 to give common approach**

- **December 1998: decision to revise the EMC Directive**
  - main aspects :
    - Basic principles,
    - treatment of installations,
    - conformity assessment procedure, application of standards,
    - consideration of the solutions provided in the guide

## Conclusion of review



- **After all concerned parties consulted (manufacturers, installers, competent/notified bodies, end users, network operators, public authorities)**
- **Main outcomes:**
  - Largely based on existing procedures, and the guide to the application of the directive 89/336/EEC
  - Affects nearly 1 Billion products annually in EU
  - Expected reduction of the electromagnetic interference
  - Global cost estimated to less than 0.1% of the revenues generated

## Timescale

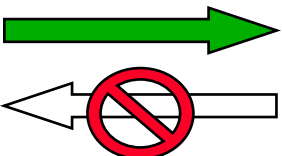


- **December 2004 – Publication of 2004/108/EC**
- **December 2006 – Transposition**
  - **89/336/EEC still into force**
  - **New directive cannot be applied even if transposed**
- **June 2007 – Date of Application**
  - **89/336/EEC is repealed**
  - **New directive can be applied**
- **June 2009 – End of Transition**
  - **Use of new directive is mandatory**
  - **Apparatus compliant with 89/336/EEC cannot be put on the market anymore**

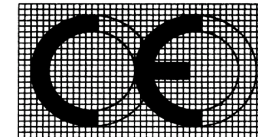
## Key elements



- **New approach Directive:**

- Essential requirements (non technical)
- Based on harmonised standards
- Compliance with HS  Compliance with ER

- Conformity assessment procedure : proportionate to the risk
- Consistent application : Safeguards.
- Information and marking



## Principal Changes



- **39 amendments from 89/336/EC**
- **Introduces concept of “Fixed Installations”**
- **Competent Bodies become Notified Bodies**
- **EC Type Examination Certificate disappears**
- **Internal Production Control plus technical documentation is required**
- **Optional involvement of Notified Bodies**
- **CE marking required for all apparatus but optional for fixed Installations**
- **NB number not required with CE mark**

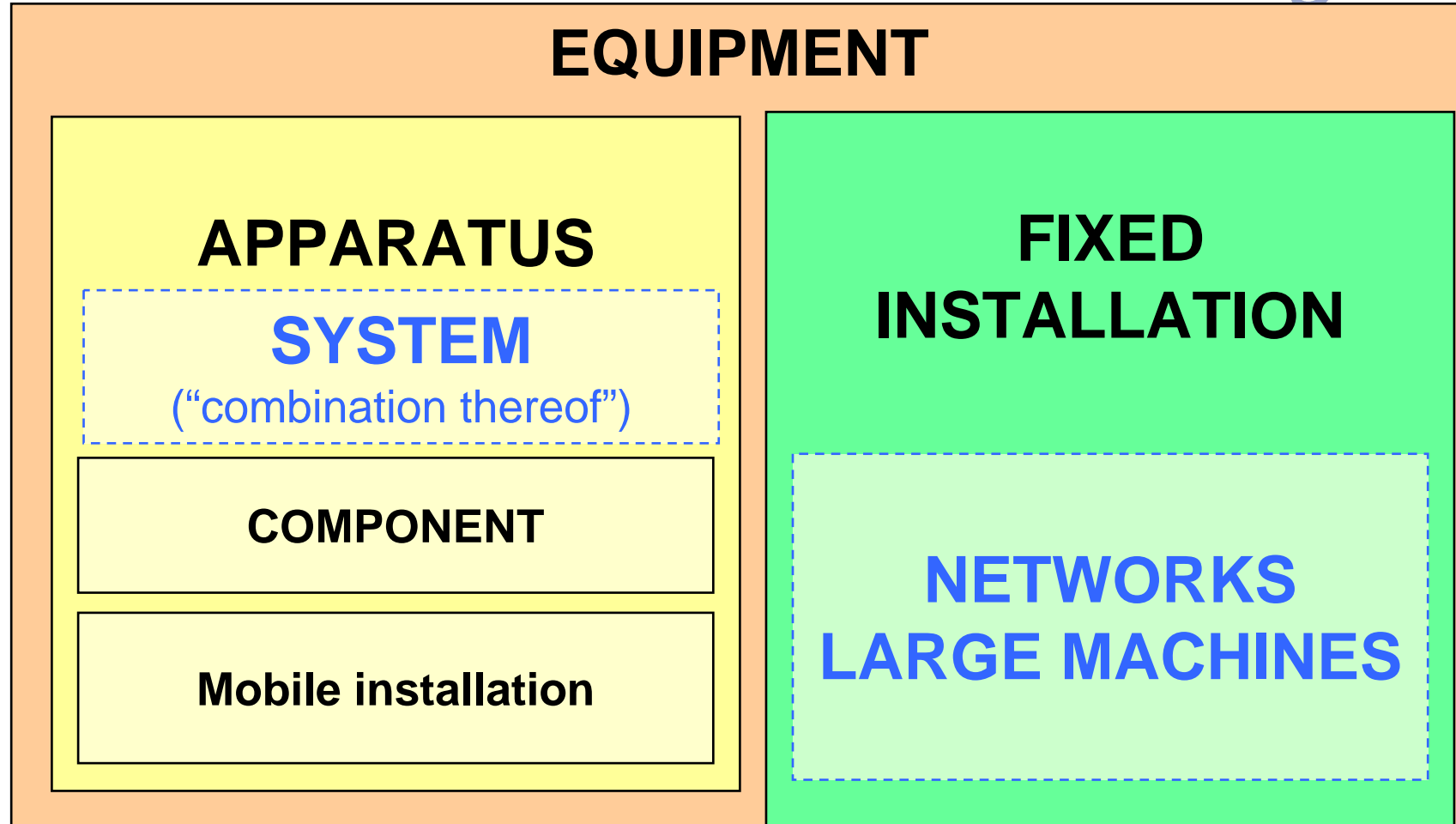
# Exclusions



- **New EMCD excludes certain equipment – does not apply to:**
  - **Equipment Covered by RTTED - 1999/5/EC**
  - **Aeronautical products**
  - **Radio Amateur equipment**
  - **Very low powered equipment,  
watches, greetings cards, etc...**
  - **Equipment where Essential Requirements are laid down  
in whole or part by other directives ( e.g. Medical  
Implants)**



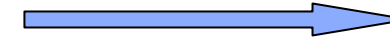
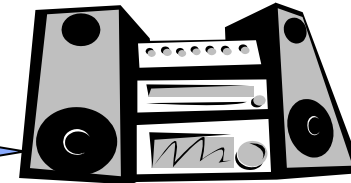
## Definitions (Article 2)



## Definitions : Apparatus (Article2)



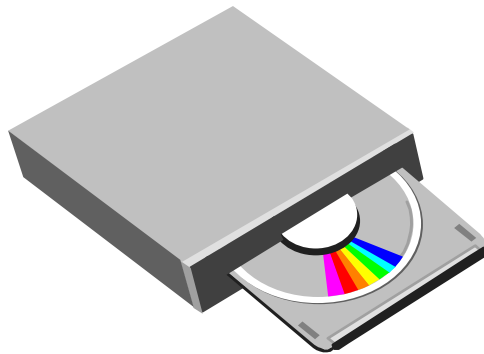
- Any finished appliance
- Any combination of finished appliances made commercially available as a single functional unit
- **intended for the end user**
- **liable to generate electromagnetic disturbance, or**
- **the performance of which is liable to be affected by such disturbance**



## Definitions : Component / Subassembly (Article2)



- **A component or subassembly**
  - intended for incorporation into an apparatus by the end user
  - liable to generate or transmit electromagnetic disturbance when connected to it



**is an apparatus**

## Definitions : Mobile installation (Article 2)



- **A mobile installation**

- Combination of apparatus
- Intended to be moved and operated in a range of locations



**is an apparatus**

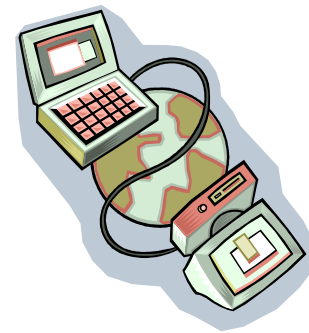
## Definition : Fixed installations (Article 2)



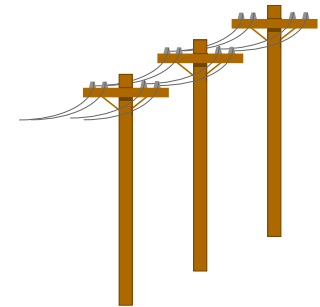
- combination of several types of apparatus and, where applicable, other devices
- assembled, installed and intended to be used :
  - permanently
  - at a predefined location



Large machines



includes



networks

## Essential Requirements - 1



- **Essential Requirements in Annex 1**

***Equipment shall be so designed and manufactured, having regard to the state of the art, as to ensure that:***

- (a) the electromagnetic disturbance generated does not exceed the level above which radio and telecommunications equipment or other equipment cannot operate as intended;
- (b) It has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use.

## Essential Requirements - 2



- **Specific Requirements for Fixed Installations**

*Installation and intended use of components*

- A fixed Installation shall be installed applying good engineering practices and respecting the information on the intended use of its components, with a view to meeting the protection requirements set out in point 1. These good engineering practices shall be documented and the documentation shall be held by the responsible person(s) at the disposal of the relevant national authorities for inspection purposes for as long as the fixed installation is in operation.

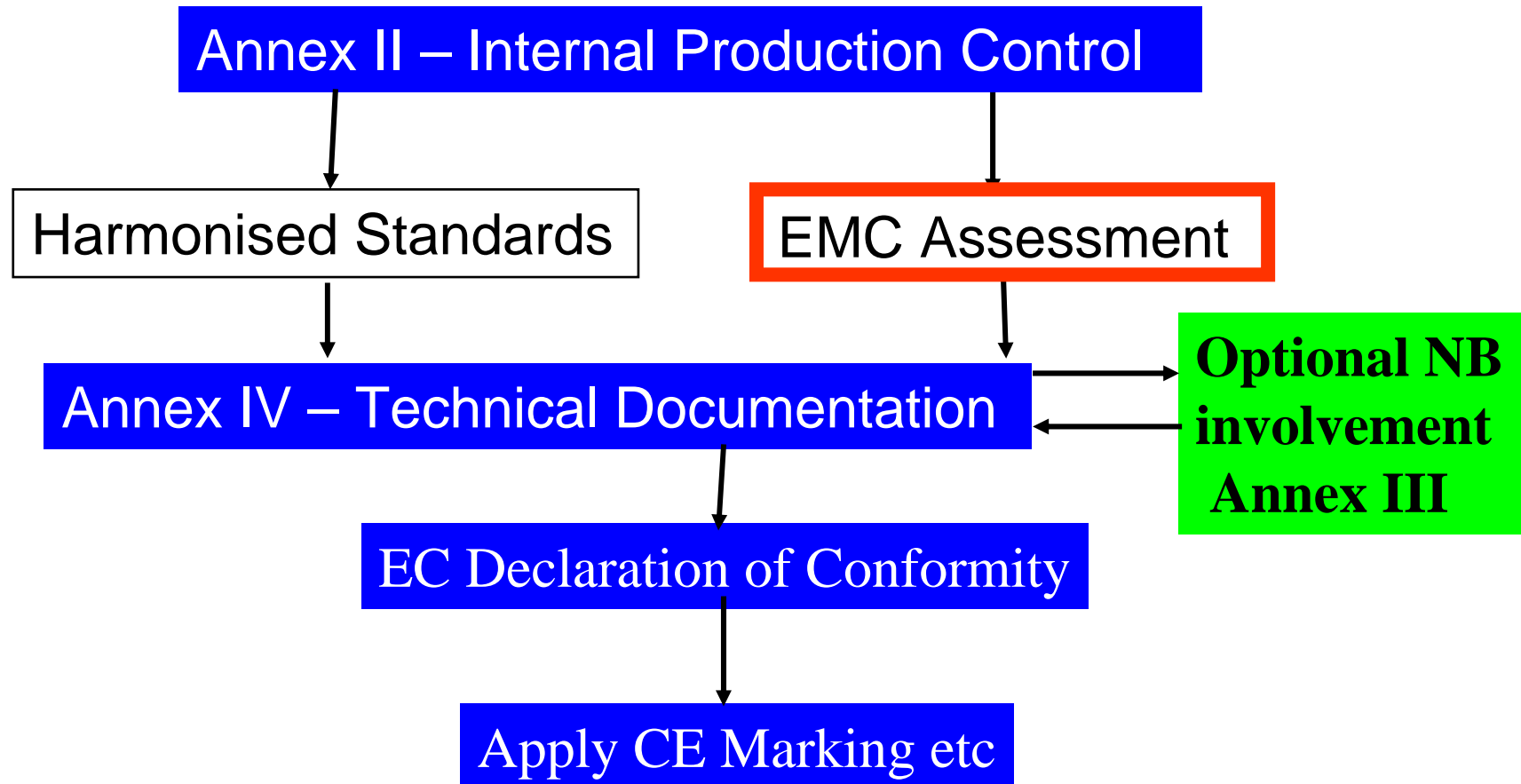
- **Conformity:**
  - Assessed by manufacturer
  - Demonstrated through technical documentation
  - Optional involvement of Notified Body
  - Attested through a declaration of conformity
  - Prior to affix the CE marking
- **Technical documentation & declaration of conformity shall retained for ten years after the last apparatus has been manufactured**
- **Manufacturing process shall ensure all products are compliant with the Directive**



## Conformity process - 2



**Article 7 – provides simple route to demonstrating conformity with essential requirements**





## EMC assessment (Annex 1)



- **Performed by the manufacturer of the apparatus, based on the relevant phenomena, with a view to meeting the protection requirements**
- **Takes into account all normal intended operating conditions**
- **Must confirm that the apparatus meets the protection requirements in all possible configurations foreseeable to be representative of normal use, in the case where the apparatus can take different configurations (definition and verification of the case subject to/causing maximum disturbance should be assessed)**

## Technical Documentation – keep for ten years

<b>Report from Notified Body (Optional)</b>	<b>General description of apparatus</b>	 Harmonised Standards
	<b>Evidence of compliance with Harmonised Standards</b>	
	<b>Description of technical solutions used Calculations, reports etc...</b>	 no Harmonised Standards
	<b>Description of EMC assessment including Normal operating conditions</b>	

### EC Declaration of conformity

- reference to 2004/108/EC
- Identification of apparatus
- Name and address of manufacturer or authorised representative
- Dated reference to specifications under which conformity is declared
- Date and place of issue of the EC Declaration of Conformity
- Identification and signature of responsible person

## What is A Fixed Installation?



- **A combination of several types of apparatus and where applicable other devices which are assembled and intended to be used permanently at a fixed location**
- **Examples**
  - Airport Luggage transport system
  - Telecommunications network
  - Fire detection and prevention system

# Fixed Installations - Conformity



Technical Documentation – keep as long as installation is operating

<b>Report from Notified Body (Optional)</b>	<b>General description of “Fixed Installation” and location. Evidence of compliance with Harmonised Standards for individual components (if applicable). Identify EMC characteristics and any special precautions taken</b>
	<b>Apply and document “Good Engineering practice” Description of technical solutions used Calculations, reports etc... Include description of EMC assessment under normal operating conditions</b>

## Optional EC Declaration of Conformity

- Reference to 2004/108/EC
- Identification of Fixed Installation and where located
- Name and address of manufacturer or authorised representative
- Dated reference to specifications under which conformity is declared
- Date and place of issue of the EC Declaration of Conformity
- Identification and signature of responsible person

## What is a Fixed Installation?



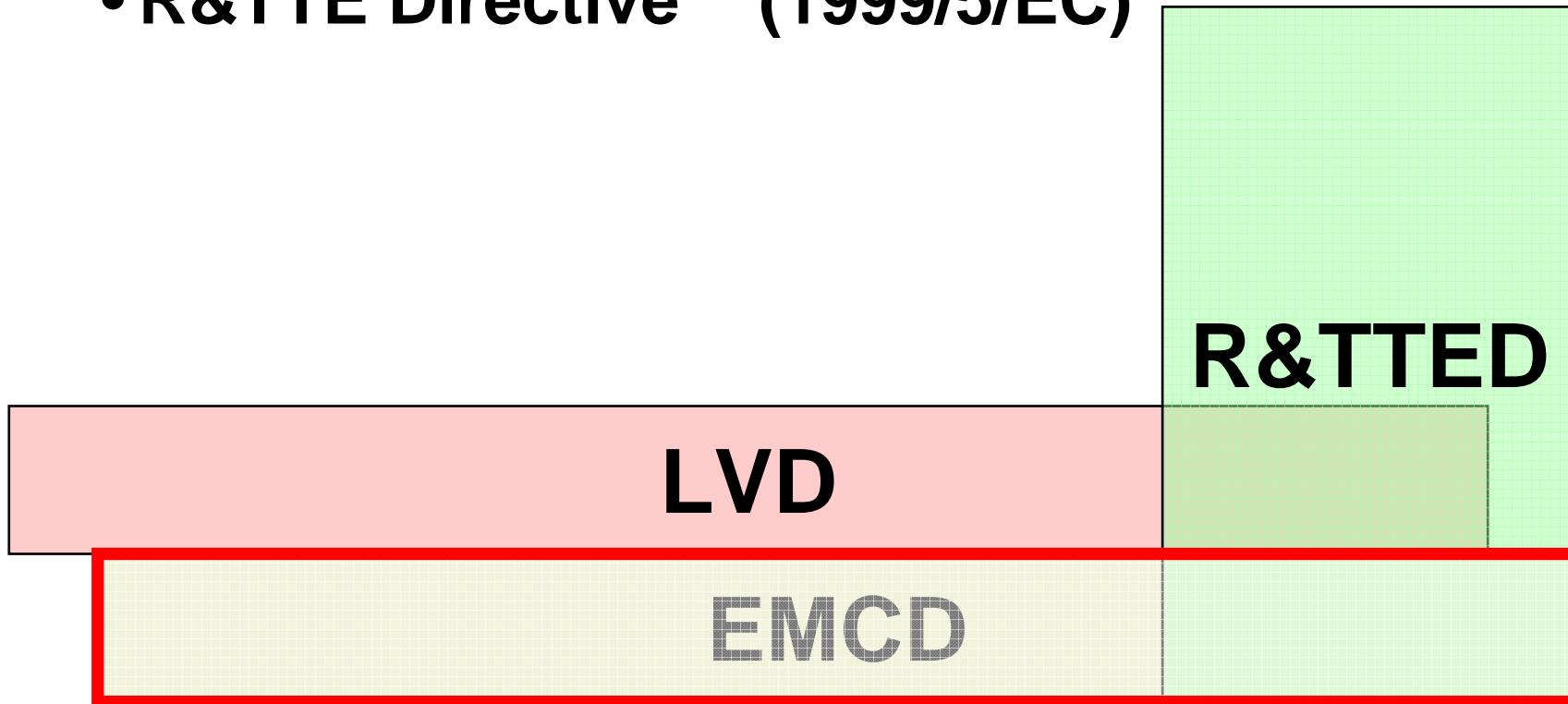
- **Concerns remain about**

- What does the term “used permanently” mean in the light of dynamic networks
- How long does “used permanently” mean
- What is a predefined location
- Will different Administrations apply different criteria for defining a Fixed Installation
- How will D of C remain valid for dynamic systems
- For Large Networks who will be an acceptable responsible person to sign the D of C

## Interactions in the present legislative framework



- **EMC Directive(89/336/EEC) [ 2004/108/EC]**
- **R&TTE Directive (1999/5/EC)**



- **EMC Directive [2004/108/EC] does not apply to equipment under R&TTE [1999/5/EC]**
- **R&TTE dis-applies directive [ 89/336/EEC] for equipment within its scope**
- **However R&TTE permits use of conformity assessment procedures in 89/336/EEC to demonstrate compliance to Essential requirement 3.1(b)**
- **2004/108/EC Article 14 states references to 89/336/EEC shall be construed as references to 2004/108/EC and includes a cross reference table in Annex VII**



# Pro/cons of EMC route for R&TTE Apparatus



- **Benefits for using EMC Directive compliance route**
  - More EMC Harmonised standards under EMC directive to R&TTE directive
  - Documentation in EMC TCF less defined than required in R&TTE TCF
- **Benefits for using R&TTE Directive compliance route**
  - For Radio Products only one set of documentation
  - When using an NB can place NB number this with CE mark
- **Annex V (FQA) route may be followed for all relevant articles**

## **Pro/cons of EMC route for R&TTE Fixed Installations**



- **New EMCD has no link in Annex VII to Article 13 for “Fixed Installations” of the new EMCD to be picked up by cross-references from the R&TTED via 89/336/EEC. So radio and telecom equipment in “Fixed Installations” cannot easily benefit from the provisions of the new EMCD**
- **If this can be resolved then makes review of EMC aspects of large Radio installations and Private Telecoms Installations easier; BUT no solution for any RADIO (R&TTE Article 3.2) aspects**

## Documentation similarities between R&TTE and new EMCD



R&TTED	New EMCD
General description of product	General description of apparatus
Design & Manufacturing drawings, BOM, Circuit diagrams	<b>No Formal requirement</b>
List of standards applied, description of solutions adopted etc.	<b>Implicit in EMC Assessment/D of C</b>
Design calculations, examinations performed etc.	<b>Only where Harmonised Standards not used in full</b>
Test reports	EMC assessment
Declaration of Conformity	EC Declaration of Conformity
On-going production conformity	On-going production conformity

## Competent Bodies -> Notified Bodies



- **New EMCD has no CBs but has different role for NBs**
- **Commission originally stated that “All CBs” can become NBs under the EMCD**
- **Each Administration will need to recommend the appointment of new EMCD NBs in their jurisdiction**
- **Each Candidate EMCD NB may need to apply for appointment ( rather than automatic appointments)**
- **However stricter criteria for appointment of NBs[ refer to Annex VI ] ( e.g. Independence from influences on NB opinion)**
- **New NBs will be given a number**

## New EMC NBs



- **Their scope of appointment will reflect their expertise ( e.g. No/few full scope EMC NBs)**
- **Are only obliged to give an opinion when compliance is demonstrated ( e.g. unlike R&TTE there is no formal negative opinion)**
- **Client may approach more than one EMC NB**
- **Can use their NB number on Certificates and in publicity**

## EMC Guide



- **First Draft of EMC Guide circulated April 2005**
- **Over 1000 comments received**
- **Redrafting panel met Sept 2005**
- **Next issue target Jan 2006 but some issues will still remain**
- **Final meeting of drafting group Feb 2006**
- **Presentation at Commission EMC working party Mar 2006 (including resolving any outstanding issues)**
- **Publication May 2006**

- **Main areas of concern with current draft**
  - Improved Definitions for Fixed Installations
  - Revise sections on NBs to make them proportionate
  - Significantly reduce Enforcement section as this is the responsibility of ADCO to define/police
  - Improve Details related to the Scope of the new EMCD

## Summary



- **New EMCD is a clearer statement in many respects of a manufacturer's obligations than 89/336/EEC**
- **Concept of EC Type Examination Certificate goes**
- **Clearer Conformity procedures**
- **Clear definition of manufacturer responsibilities**
- **Better information requirements for user instructions including non-residential use**
- **Fixed Installations defined even if definition is ambiguous**
- **Remains usable but of limited benefit to Apparatus under the R&TTE**
- **May be of use to Fixed Installations under the R&TTE provided the linkage can be made**
- **Competent Bodies become Notified Bodies but may have to meet additional criteria**





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